Bootstrap 5 Exercises for Android App (Bills Segregation UI Design)

1. Setting Up Bootstrap 5

Exercise 1.1: Link Bootstrap 5 via CDN
```
<link          href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/css/bootstrap.min.css"
rel="stylesheet">
```

Exercise 1.2: Using Downloaded Bootstrap Files
```
<link href="bootstrap/css/bootstrap.min.css" rel="stylesheet">
<script src="bootstrap/js/bootstrap.bundle.min.js"></script>
```

2. Bootstrap Structure and Files

- CSS: Contains compiled Bootstrap styles.
- JS: Contains JavaScript files including bundle with Popper.
- Icons: Optional, for SVG icons from Bootstrap Icons.

Exercise 2.2: Include Bootstrap's JavaScript plugins
```
<script src="bootstrap/js/bootstrap.bundle.min.js"></script>
```

3. Responsive Grid Layout

```
<div class="container">
  <div class="row">
    <div class="col-12 col-md-6 col-lg-4">Column 1</div>
    <div class="col-12 col-md-6 col-lg-4">Column 2</div>
    <div class="col-12 col-md-12 col-lg-4">Column 3</div>
  </div>
</div>
```

4. Column Layouts

Two-column layout:
```
<div class="row">
  <div class="col-md-3">Sidebar</div>
  <div class="col-md-9">Content</div>
</div>
```

Four-column layout:
```
<div class="row">
  <div class="col-sm-3">1</div>
  <div class="col-sm-3">2</div>
  <div class="col-sm-3">3</div>
  <div class="col-sm-3">4</div>
</div>
```

5. Alignment and Reordering

Centering content:
```
<div class="row justify-content-center align-items-center">
  <div class="col-6">Centered Content</div>
</div>
```

```
Reordering:
<div class="row">
  <div class="col-md-6 order-md-2">Second</div>
  <div class="col-md-6 order-md-1">First</div>
</div>


6. Responsive Flexbox Utilities


Navbar:
<nav class="d-flex flex-column flex-md-row">
  <a class="p-2" href="#">Home</a>
  <a class="p-2" href="#">About</a>
</nav>


Card layout:
<div class="card d-flex justify-content-between align-items-center p-3">
  <span>Left</span>
  <span>Right</span>
</div>


7. Typography


<h1 class="display-1">Title</h1>
<p class="lead text-muted fw-bold">Lead paragraph</p>
<p class="text-uppercase">Uppercase</p>
<p class="text-lowercase">LOWERCASE</p>
<p class="text-capitalize">capitalize every word</p>


8. Forms


<form>
  <input type="text" class="form-control" placeholder="Name">
  <div class="form-check">
    <input class="form-check-input" type="checkbox">
    <label class="form-check-label">Agree</label>
  </div>
</form>


<form>
  <div class="form-floating mb-3">
    <input type="email" class="form-control" placeholder="Email">
    <label>Email address</label>
  </div>
</form>


9. Buttons


<button class="btn btn-primary">Primary</button>
<button class="btn btn-outline-danger">Danger</button>

<div class="btn-group">
  <input type="checkbox" class="btn-check" id="btn-check1">
  <label class="btn btn-outline-primary" for="btn-check1">Toggle</label>
</div>
```

10. Navbars and Navigation

```html
<nav class="navbar navbar-expand-lg navbar-light bg-light">
  <a class="navbar-brand" href="#">Logo</a>
  <form class="d-flex ms-auto">
    <input class="form-control me-2" type="search" placeholder="Search">
  </form>
</nav>

<ul class="nav nav-tabs">
  <li class="nav-item">
    <a class="nav-link active" href="#">Tab 1</a>
  </li>
</ul>
```

11. Cards and Media

```html
<div class="card" style="width: 18rem;">
  <img src="img.jpg" class="card-img-top" alt="Profile">
  <div class="card-body">
    <h5 class="card-title">Name</h5>
    <p class="card-text">Details</p>
  </div>
</div>

<div class="d-flex align-items-start">
  <img src="img.jpg" class="me-3" width="64">
  <div>
    <h5>Title</h5>
    <p>Text here</p>
  </div>
</div>
```

12. Spacing Utilities

```html
<div class="m-3 p-2">Margin and Padding</div>
<div class="py-5">Pricing layout spacing</div>
```

13. Colors and Backgrounds

```html
<div class="bg-warning text-dark p-3">Warning Box</div>
<div class="bg-dark bg-gradient text-white p-3">Gradient Dark</div>
```

14. Display and Visibility

```html
<div class="d-none d-md-block">Visible on md and up</div>
<aside class="d-none d-md-block">Sidebar for tablets and up</aside>
```

15. Borders, Shadows, and Corners

```html
<img src="img.jpg" class="border border-primary border-3 rounded-circle" width="100">
<div class="card shadow-lg rounded-pill p-3">Stylized card</div>
```

16. Positioning Utilities

```html
<footer class="position-fixed bottom-0 w-100 bg-light text-center p-2">Fixed Footer</footer>
```

```html
<div class="position-relative">
  <img src="img.jpg" width="100">
  <span class="position-absolute top-0 start-100 translate-middle badge bg-danger">New</span>
</div>
```

17. Icons with Bootstrap Icons

```html
<link href="https://cdn.jsdelivr.net/npm/bootstrap-icons/font/bootstrap-icons.css" rel="stylesheet">
<footer>
  <i class="bi bi-twitter"></i>
  <i class="bi bi-facebook"></i>
</footer>
```

```html
<button class="btn btn-primary">
  <i class="bi bi-arrow-right"></i>
</button>
```

18. JavaScript Plugins

```html
<button class="btn btn-primary" data-bs-toggle="modal" data-bs-target="#exampleModal">Open Modal</button>
<div class="modal fade" id="exampleModal">
  <div class="modal-dialog"><div class="modal-content">Modal Content</div></div>
</div>
```

```html
<div class="accordion" id="accordionExample">
  <div class="accordion-item">
    <h2 class="accordion-header">
      <button class="accordion-button" data-bs-toggle="collapse" data-bs-target="#collapseOne">Item</button>
    </h2>
    <div id="collapseOne" class="accordion-collapse collapse show">
      <div class="accordion-body">Content</div>
    </div>
  </div>
</div>
```

19. Customization with Sass

1. Install Bootstrap:
```
npm install bootstrap
```

2. Create custom.scss:
```scss
$primary: #6610f2;
$border-radius: 1rem;
@import "node_modules/bootstrap/scss/bootstrap";
```

3. Compile:
```
npx sass custom.scss custom.css
```

4. Include in HTML:
```html
<link rel="stylesheet" href="custom.css">
```